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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/767,374	THOMPSON ET AL.	
	Examiner Victor Lesniewski	Art Unit 2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 19 January 2007.
2a) This action is **FINAL**. 2b) This action is non-final.
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 146-177,179-221,256-279 and 285-302 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 146-177,179-221,256-279 and 285-302 is/are rejected.

7) Claim(s) 272,285 and 287 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 9/27/2006 and 5/14/2007
4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ .
5) Notice of Informal Patent Application
6) Other:

DETAILED ACTION

1. The amendment filed 1/19/2007 has been placed of record in the file.
2. Claims 146, 173-177, 202, 256, and 287 have been amended.
3. Claims 283 and 284 have been canceled.
4. Claims 146-177, 179-221, 256-279, and 285-302 are now pending.
5. Since the claims have been amended, some of the applicant's previous arguments have been considered but are moot in view of the following grounds of rejection. Those arguments still seen to be of relevance will be addressed below.

Continued Examination Under 37 CFR 1.114

6. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous office action has been withdrawn pursuant to 37 CFR 1.114. The applicant's submission filed on 9/27/2006 has been entered.

Information Disclosure Statement

7. The IDS filed 9/27/2006 and the IDS filed 5/14/2007 have been considered.

Claim Objections

8. Claims 272, 285, and 287 are objected to because of the following informalities:
 - Claim 285 depends upon a canceled claim.

- Claims 272 and 287 still contain minor errors in wording as was stated in the Notice of Non-Compliant Amendment dated 12/19/2006. The applicant is asked to carefully check all claims for minor errors of this kind.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claim 286 is rejected under 35 U.S.C. 102(e) as being anticipated by Meier (U.S. Patent Number 6,847,620).

11. Meier has disclosed:

- <Claim 286>

A network system, comprising: a plurality of wireless access points coupled to a network, wherein each of the plurality of wireless access points is operable to communicate with a portable computing device in a wireless fashion (figure 2), wherein each of the plurality of wireless access points is configured to receive identification information from the portable computing device indicating a VLAN of a plurality of possible VLANs (column 6, lines 15-22); wherein each of the plurality of access points is operable to determine the VLAN indicated by the identification information (column 10, lines 14-19); wherein each

of the plurality of wireless access points is operable to provide network access to the portable computing device through the determined VLAN (column 10, lines 45-54); wherein the identification information comprises a System ID (SID) of a plurality of possible SIDs; and wherein the first access point is operable to recognize the SID of the plurality of possible SIDs, wherein each of the plurality of possible SIDs is associated with a respective one of the plurality of possible VLANs (column 7, lines 35-39); wherein at least a subset of the plurality of possible SIDs comprises one or more of a Service Set ID (SSID), an Extended Service Set ID (ESSID), and a Basic Service Set ID (BSSID) (column 7, lines 35-39).

Since all the limitations of the invention as set forth in claim 286 were disclosed by Meier, claim 286 is rejected.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 146-177, 179-190, 192-210, 212-221, 256-279, 285, and 287-302 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meier in view of Delaney et al. (U.S. Patent Number 6,937,574), hereinafter referred to as Delaney.

14. Meier disclosed a VLAN-aware communications system that utilizes VLAN IDs and VLAN tagged frames. In an analogous art, Delaney disclosed communications routing in a network using a VLAN demultiplexer that ensures distinct virtual private networks.

15. Concerning the independent claims, Meier did not explicitly state that each of at least two VLANs corresponds to a different respective network service provider. However, Delaney does explicitly disclose this feature as his system maintains carrier virtual LANs that customers may utilize by subscribing to services provided by a network service provider. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Meier by adding the ability to have each VLAN correspond to a respective network service provider as provided by Delaney. Here the combination satisfies the need for methods that enable a service provider to provide a very large number of VLANs on shared network facilities. See Delaney, column 1, line 55 through column 2, line 23. This rationale also applies to those dependent claims utilizing the same combination.

16. Concerning claims 163, 164, 198, 199, 215, and 216, Meier did not explicitly state that his system could utilize IEEE 802.1p or enforce a predefined quality of service metric to a VLAN. However, the 802.1p protocol was known in the art at the time of the applicant's invention and was designed with the purpose of extending the 802.1q protocol. Meier makes use of the 802.1q protocol (see, *inter alia*, column 2, lines 47-57) and using the 802.1p protocol would be a clear extension of his system since 802.1p was designed for use with the 802.1q. Furthermore, 802.1p is used to define a quality of service for systems like that of Meier's. Thus it would also be a clear extension of Meier's system to enforce a quality of service metric to a VLAN. It would have been obvious to one of ordinary skill in the art at the time of the

applicant's invention to modify the system of Meier by adding the ability to utilize IEEE 802.1p or enforce a predefined quality of service metric to a VLAN. For further detail on the 802.1p protocol, the applicant is directed to the related art cited in a previous action to the Network Dictionary.

17. Some claims will be discussed together. Those claims which are essentially the same except that they set forth the claimed invention as an alternative method, a computer readable memory medium, a network system, or a wireless access point, etc. are rejected under the same rationale applied to the described claim. In addition, citations to Meier will only include the citation, such as (column 6, lines 15-22), while citations to Delaney will explicitly state Delaney, such as (Delaney, column 14, lines 33-44).

18. Thereby, the combination of Meier and Delaney discloses:

- <Claims 146, 173, 256, and 289>

A method for providing access to a network system which comprises a network, the method comprising: a first access point (figure 2, "AP") coupled to the network receiving identification information from a portable computing device (figure 2, "STA") in a wireless manner, wherein the identification information indicates a first VLAN of a plurality of possible VLANs (column 6, lines 15-22); wherein each of at least two of the plurality of possible VLANs corresponds to a different respective network service provider from among a plurality of network service providers (Delaney, column 14, lines 11-27 and column 14, lines 33-44); the first access point determining the first VLAN of the plurality of possible VLANs for the portable computing device after receiving the identification information (column 10, lines 14-19); the first access point receiving data

from the portable computing device (column 10, lines 45-54); and providing the received data to a first network service provider based on the first VLAN determined in said determining (column 10, lines 45-54 and Delaney, column 14, lines 33-44).

- <Claims 147, 257, and 290>

The method of claim 146, wherein the first VLAN corresponds to a first network destination; wherein said providing comprises providing the received data to the first network destination using the first VLAN (column 10, lines 45-54).

- <Claims 148, 258, and 291>

The method of claim 146, wherein each of the plurality of possible VLANs corresponds to a respective network destination of a plurality of possible network destinations (column 6, lines 1-4); wherein the first VLAN corresponds to a first network destination; wherein said providing comprises providing the received data to the first network destination using the first VLAN (column 10, lines 45-54).

- <Claims 149, 259, and 292>

The method of claim 148, wherein the use of different VLANs for different network destinations operates to separate data traffic on the network for each of the network destinations (column 9, lines 20-33).

- <Claims 150, 260, and 293>

The method of claim 148, wherein at least a subset of the network destinations comprise wireless service providers (column 1, lines 37-52 and Delaney, column 14, lines 33-44).

- <Claims 151, 261, and 294>

The method of claim 148, the first access point coupled to the network receiving second identification information from a second portable computing device in a wireless manner, wherein the second identification information indicates a second VLAN of the plurality of possible VLANs (column 9, lines 40-45); the first access point determining the second VLAN of the plurality of possible VLANs for the second portable computing device after receiving the second identification information (column 10, lines 14-19); the first access point receiving second data from the second portable computing device (column 10, lines 45-47); and providing the received second data to a second network service provider based on the second VLAN determined in said determining (column 10, lines 47-54 and Delaney, column 14, lines 33-44).

Furthermore, see figure 2 where STA A4 belongs to VLAN A.

- <Claims 152 and 262>

The method of claim 146, further comprising: the first access point receiving second identification information from a second portable computing device in a wireless manner, wherein the second identification information indicates a second VLAN of the plurality of possible VLANs (column 9, lines 40-45); the first access point determining the second VLAN of the plurality of possible VLANs after receiving the second identification information (column 10, lines 14-19); the first access point receiving second data from the second portable computing device (column 10, lines 45-47); and providing the second received data to a second network service provider based on the second VLAN

determined in said determining (column 10, lines 47-54 and Delaney, column 14, lines 33-44).

Furthermore, see figure 2 where STA B4 belongs to VLAN B but gains access through AP3 that belongs to VLAN A.

- <Claims 153, 263, and 295>

The method of claim 146, wherein the network system includes a memory medium which stores a data structure comprising a list of identification information entries and a corresponding list of the plurality of possible VLANs (column 10, lines 14-28); and wherein said determining the first VLAN of the plurality of possible VLANs includes accessing the memory medium and using the received identification information to determine the first VLAN (column 10, lines 14-19).

- <Claims 154 and 264>

The method of claim 153, wherein said determining the first VLAN of the plurality of possible VLANs comprises indexing into the data structure using the identification information to determine the first VLAN of the plurality of possible VLANs stored in the data structure corresponding to the identification information (column 10, lines 14-19).

- <Claims 155 and 265>

The method of claim 153, wherein the memory medium is comprised in the first access point (column 10, lines 14-19).

- <Claims 156, 266, and 296>

The method of claim 153, wherein the data structure further comprises associated methods for providing data to the network; and wherein said determining the first VLAN

of the plurality of possible VLANs includes accessing the memory medium and using the received identification information to determine the first VLAN and an associated method for providing data to the network (column 10, lines 14-28).

- <Claims 157, 267, and 297>

The method of claim 146, wherein the identification information comprises a System Identification (column 7, lines 35-39).

- <Claims 158 and 268>

The method of claim 157, wherein the System Identification comprises one or more of a wireless Ethernet Service Set ID (SSID), an Extended Service Set ID (ESSID), and a Basic Service Set ID (BSSID) (column 7, lines 35-39).

- <Claims 159 and 269>

The method of claim 158, wherein the BSSID comprises a media access control (MAC) ID (by definition of the BSSID).

For BSSID definition/description see previously cited IEEE Std 802.11-1997, specifically section 7.1.3.3.1-7.

- <Claims 160, 270, and 298>

The method of claim 146, further comprising: determining an access level for the portable computing device after receiving the identification information; wherein said providing the received data to the first network service provider based on the first VLAN determined in said determining is based on the determined access level (column 10, lines 55-60 and Delaney, column 14, lines 33-44).

- <Claims 161, 271, and 299>

The method of claim 146, further comprising: the first access point concurrently using a plurality of radio frequency (RF) channels for communicating with one or more portable computing devices (column 3, lines 1-2).

- <Claims 162 and 272>

The method of claim 161, wherein a first RF channel of the plurality of RF channels and a second RF channel of the plurality of RF channels are non-overlapping RF channels (column 3, lines 3-5).

- <Claim 163>

The method of claim 146, wherein the network is operable to support IEEE 802.1p (obviousness where 802.1p is a clear extension of 802.1q).

- <Claim 164>

The method of claim 146, wherein the network is operable to enforce a predefined quality of service (QoS) metric to the first VLAN (obviousness where 802.1p is a clear extension of 802.1q and allows definition of a quality of service metric).

- <Claims 165, 273, and 300>

The method of claim 146, further comprising: the first access point broadcasting a plurality of possible System Identifications (SIDs), wherein each of the plurality of possible SIDs is associated with at least one VLAN of the plurality of possible VLANs (column 8, line 62 through column 9, line 3).

- <Claims 166 and 274>

The method of claim 165, wherein said broadcasting the plurality of possible SIDs includes a beacon format (column 8, line 62 through column 9, line 3).

- <Claims 167, 275, and 302>

The method of claim 146, wherein the first access point is arranged at a known geographic location, the method further comprising: providing network access to the portable computing device using the first VLAN determined in said determining (column 10, lines 45-54); and determining a geographic location of the portable computing device; wherein said providing network access comprises selectively providing network access to the portable computing device based on the determined geographic location of the portable computing device (column 11, line 11 through column 14, line 2).

- <Claims 168, 276, and 301>

The method of claim 146, wherein the first access point is arranged at a known geographic location, the method further comprising: providing network access to the portable computing device using the first VLAN determined in said determining (column 10, lines 45-54); wherein said providing network access comprises selectively providing network access to the portable computing device based on the known geographic location of the first access point (column 11, line 11 through column 14, line 2).

- <Claims 169 and 277>

The method of claim 146, wherein the first access point is arranged at a known geographic location, the method further comprising: providing network access to the portable computing device using the first VLAN determined in said determining (column

10, lines 45-54); and determining an access level for the portable computing device after receiving the identification information (column 10, lines 55-60); wherein said providing network access comprises selectively providing network access to the portable computing device based on the known geographic location of the first access point and the determined access level (column 11, line 11 through column 14, line 2).

- <Claims 170 and 278>

The method of claim 146, further comprising: assigning a wireless communication channel for communication between the first access point and the portable computing device (column 3, lines 1-5).

- <Claim 171>

The method of claim 170, wherein the first access point assigns the wireless communication channel for communication between the first access point and the portable computing device (column 10, lines 14-28).

- <Claims 172 and 279>

The method of claim 170, wherein said assigning comprises channel based on the identification information assigning the wireless communication received from the portable computing device (column 10, lines 14-28).

- <Claim 174>

A system comprising: a wireless access point coupled to a network (figure 2, “AP”), wherein the first wireless access point is operable to communicate with a portable computing device (figure 2, “STA”), wherein the first wireless access point is configured to receive identification information from the portable computing device indicating a

VLAN of a plurality of possible VLANs (column 6, lines 15-22); wherein each of at least two of the plurality of possible VLANs corresponds to a different respective network service provider from among a plurality of network service providers (Delaney, column 14, lines 11-27 and column 14, lines 33-44); wherein the first wireless access point is operable to determine the VLAN indicated in the identification information, wherein the determined VLAN corresponds to a first network service provider (column 10, lines 14-19 and Delaney, column 14, lines 33-44); and wherein the first wireless access point is operable to select the first network service provider from among the plurality of possible network service providers based on the indicated VLAN to provide network access to the portable computing device (column 10, lines 45-54 and Delaney, column 14, lines 33-44).

- <Claim 175>

The AP of claim 174, wherein each of the plurality of possible VLANs corresponds to a respective network destination of a plurality of possible network destinations (column 6, lines 1-4); wherein the first VLAN corresponds to a first network destination; wherein the first wireless access point is operable to receive data from the portable computing device and provide the received data to the first network destination using the first VLAN (column 10, lines 45-54).

- <Claim 176>

The AP of claim 175, wherein the use of different VLANs for different network destinations operates to separate data traffic on the network for each of the network destinations (column 9, lines 20-33).

- <Claim 177>

A system, comprising: a wireless access point operable to communicate with a portable computing device in a wireless fashion (figure 2), wherein the wireless access point is configured to receive identification information from the portable computing device indicating a VLAN of a plurality of possible VLANs (column 6, lines 15-22); wherein the access point is operable to determine the VLAN indicated by the identification information (column 10, lines 14-19); wherein the wireless access point is operable to provide network access to the portable computing device through the determined VLAN (column 10, lines 45-54); wherein at least two of the plurality of possible VLANs is associated with a different respective network service provider from among a plurality of network service providers (Delaney, column 14, lines 11-27 and column 14, lines 33-44); and wherein the access point is operable to maintain an association between each of the at least two of the plurality of possible VLANs and the respective network provider from among a plurality of network service providers (Delaney, column 14, lines 33-44).

- <Claims 179 and 285>

The network system of claim 177, wherein network access is provided to the portable computing device through the first access point, the determined VLAN, and the respective network provider (Delaney, column 14, lines 33-44).

- <Claim 180>

The network system of claim 177, wherein the identification information comprises a System ID (SID) of a plurality of possible SIDs; and wherein the first access point is operable to recognize the SID of the plurality of possible SIDs, wherein each of the

plurality of possible SIDs is associated with a respective one of the plurality of possible VLANs (column 7, lines 35-39).

- <Claim 181>

The network system of claim 180, wherein at least a subset of the plurality of possible SIDs comprises one or more of a Service Set ID (SSID), an Extended Service Set ID (ESSID), and a Basic Service Set ID (BSSID) (column 7, lines 35-39).

- <Claim 182>

The network system of claim 180, wherein the first access point is operable to maintain associations between the plurality of possible SIDs and the plurality of the plurality of possible VLANs (column 10, lines 14-28).

- <Claim 183>

The network system of claim 180, wherein each of at least a subset of the plurality of possible VLANs is associated with a respective service provider (Delaney, column 14, lines 33-44); and wherein the first access point is operable to maintain associations between each of at least a subset of the plurality of possible SIDs and a plurality of active subscribers of each service provider (column 7, lines 35-39 and Delaney, column 14, lines 33-44).

- <Claim 184>

The network system of claim 180, wherein the first access point is operable to broadcast at least a subset of the plurality of possible SIDs, wherein each of the plurality of possible SIDs is associated with a respective one of the plurality of VLANs (column 8, line 62 through column 9, line 3).

- <Claim 185>

The network system of claim 184, wherein the first access point is operable to use a beacon format to broadcast the at least a subset of the plurality of possible SIDs (column 8, line 62 through column 9, line 3).

- <Claim 186>

The network system of claim 184, wherein the at least a subset of the plurality of possible SIDs comprises one or more of a Service Set ID (SSID), an Extended Service Set ID (ESSID), and a Basic Service Set ID (BSSID) (column 7, lines 35-39).

- <Claim 187>

The network system of claim 177, wherein at least one of said plurality of access points comprises computer software which implements a plurality of virtual access points, wherein each virtual access point of the plurality of virtual access points corresponds to one of the plurality of possible VLANs, and wherein each virtual access point of the plurality of virtual access points provides network access services to one or more portable computing devices through the corresponding VLAN (column 9, lines 58-64).

- <Claim 188>

The network system of claim 187, wherein each virtual access point of the plurality of virtual access points provides access point functionality implemented in software, wherein each virtual access point of the plurality of virtual access points appears as a physical access point to the portable computing device (column 9, lines 58-64).

- <Claim 189>

The network system of claim 187, wherein each virtual access point of the plurality of virtual access points executes a wireless protocol stack (by definition of 802.11 protocol referred to at column 2, lines 14-17, *inter alia*).

- <Claim 190>

The network system of claim 189, wherein the wireless protocol stack comprises an IEEE 802.11 protocol stack (by definition of 802.11 protocol referred to at column 2, lines 14-17, *inter alia*).

- <Claim 192>

The network system of claim 177, further comprising: a memory medium coupled to the network which stores a data structure comprising a list of identification information entries and a corresponding list of the plurality of possible VLANs (column 10, lines 14-28); wherein, in said determining the VLAN, each of the plurality of access points is operable to access the memory medium and use the received identification information to determine the VLAN (column 10, lines 14-19).

- <Claim 193>

The network system of claim 192, wherein the memory medium is comprised in one or more of the plurality of access points (column 10, lines 14-19).

- <Claim 194>

The network system of claim 177, wherein the plurality of access points are maintained by a first network service provider (Delaney, column 14, lines 33-44); and wherein the

identification information indicates a second network service provider (Delaney, column 14, lines 33-44).

- <Claim 195>

The network system of claim 177, wherein the plurality of access points are arranged at known locations in a geographic region, wherein each access point is operable to provide geographic location information indicating a known geographic location of the portable computing device; and wherein network access is selectively provided to the portable computing device based on the known geographic location of the portable computing device (column 11, line 11 through column 14, line 2).

- <Claim 196>

The network system of claim 177, wherein the first access point is operable to assign a wireless communication channel for communication between the first access point and the portable computing device (column 10, lines 14-28).

- <Claim 197>

The network system of claim 177, wherein one or more of the plurality access points are operable to assign a wireless communication channel based on one or more of: the identification information received from the portable computing device, and a determined access level for the portable computing device, wherein said access level is determined by one of said one or more of the access points after receiving the identification information (column 10, lines 14-28).

- <Claim 198>

The network system of claim 177, wherein one or more of the plurality access points are operable to assign a quality of service (QoS) based on one or more of: the identification information received from the portable computing device, and a determined access level for the portable computing device, wherein said access level is determined by one of said one or more of the access points after receiving the identification information (obviousness where 802.1p is a clear extension of 802.1q and allows definition of a quality of service metric).

- <Claim 199>

The network system of claim 177, wherein the network is operable to support IEEE 802.1p (obviousness where 802.1p is a clear extension of 802.1q).

- <Claim 200>

The network system of claim 177, wherein the first access point is operable to concurrently use a plurality of radio frequency (RF) channels for communicating with one or more portable computing devices (column 3, lines 1-2).

- <Claim 201>

The network system of claim 200, wherein a first RF channel of the plurality of RF channels and a second RF channel of the plurality of RF channels are non- overlapping RF channels (column 3, lines 3-5).

- <Claim 202>

A method for operating a network system, the method comprising: a first access point (figure 2, “AP”) coupled to a network receiving identification information from a

portable computing device (figure 2, “STA”) in a wireless manner (column 6, lines 15-17); the first access point determining a VLAN tag corresponding to the identification information (column 4, lines 61-65 and column 9, lines 40-45); the first access point receiving data from the portable computing device in a wireless manner; providing the VLAN tag and the data received from the portable computing device to the network wherein at least two of a plurality of possible VLANs is associated with a different respective network provider from among a plurality of network providers (column 10, lines 45-54 and Delaney, column 14, lines 11-27 and column 14, lines 33-44); wherein the network is operable to maintain an association between each of the at least two of the plurality of possible VLANs and the respective network provider from among the plurality of network providers (Delaney, column 14, lines 11-27 and column 14, lines 33-44); and wherein the network routes the data received from the portable computing device through the respective network provider from among the plurality of network providers associated with the determined VLAN tag (column 10, lines 45-54 and Delaney, column 14, lines 33-44).

- <Claim 203>

The method of claim 202, wherein the first access point and the portable computing device communicate using wireless Ethernet (by definition of 802.11 protocol referred to at column 2, lines 14-17, *inter alia*).

- <Claim 204>

The method of claim 202, wherein the identification information comprises a System Identification (column 7, lines 35-39).

- <Claim 205>

The method of claim 204, wherein the System Identification comprises one or more of a wireless Ethernet Service Set ID (SSID), an Extended Service Set ID (ESSID), and a Basic Service Set ID (BSSID) (column 7, lines 35-39).

- <Claim 206>

The method of claim 202, wherein said determining comprises accessing a memory medium coupled to the network to determine the VLAN tag corresponding to the identification information (column 10, lines 14-28).

- <Claim 207>

The method of claim 206, wherein the memory medium comprises a data structure which includes a list of identification information entries and a corresponding list of VLAN tags (column 10, lines 14-28).

- <Claim 208>

The method of claim 207, wherein said determining comprises using the identification information to index into the data structure using the identification information to determine the VLAN tag (column 10, lines 14-19).

- <Claim 209>

The method of claim 206, wherein the first access point comprises the memory medium (column 10, lines 14-19).

- <Claim 210>

The method of claim 202, wherein the identification information comprises a media access control (MAC) 1D (by definition of the BSSID).

For BSSID definition/description see previously cited IEEE Std 802.11-1997, specifically section 7.1.3.3.1-7.

- <Claim 212>

The method of claim 202, further comprising: the first access point receiving second identification information from a second portable computing device in a wireless manner (column 9, lines 40-45); the first access point determining a second VLAN tag corresponding to the second identification information (column 10, lines 14-19), wherein the second VLAN tag corresponds to a second network provider (Delaney, column 14, lines 33-44); the first access point receiving second data from the second portable computing device in a wireless manner (column 10, lines 45-47); and providing the second VLAN tag and the second data received from the second portable computing device to the network, wherein the second VLAN tag is usable by the network to route the second data received from the second portable computing device based on the second network provider (column 10, lines 47-54 and Delaney, column 14, lines 33-44); wherein the identification information is different from the second identification information; and wherein the first network provider is different from the second network provider (column 10, lines 14-28 and Delaney, column 14, lines 33-44).

Furthermore, see figure 2 where STA B4 belongs to VLAN B but gains access through AP3 that belongs to VLAN A.

- <Claim 213>

The method of claim 212, wherein the second identification information comprises a System Identification (column 7, lines 35-39).

- <Claim 214>

The method of claim 213, wherein the System Identification comprises one or more of a wireless Ethernet Service Set ID (SSID), an Extended Service Set ID (ESSID), and a Basic Service Set ID (BSSID) (column 7, lines 35-39).

- <Claim 215>

The method of claim 202, further comprising: determining a quality of service based on the received identification information; wherein said providing the VLAN tag and the data received from the portable computing device to the network is based on the quality of service (obviousness where 802.1p is a clear extension of 802.1q and allows definition of a quality of service metric).

- <Claim 216>

The method of claim 202, wherein the VLAN tag comprises quality of service information, wherein the quality of service information indicates a quality of service; wherein the network is operable to route the data received from the portable computing device to a network destination based on the quality of service indicated by the quality of service information (obviousness where 802.1p is a clear extension of 802.1q and allows definition of a quality of service metric).

- <Claim 217>

The method of claim 202, further comprising: a computer system at the network destination receiving the data from the portable computing device; and providing network access to the portable computing device (column 10, lines 45-54).

- <Claim 218>

The method of claim 202, wherein the first access point is arranged at a known geographic location, the method further comprising: the first access point providing geographic location information indicating a known geographic location of the portable computing device; a computer system at a network destination receiving the data from the portable computing device; and providing network access to the portable computing device; wherein said providing network access comprises selectively providing network access to the portable computing device based on the known geographic location of the portable computing device (column 11, line 11 through column 14, line 2).

- <Claim 219>

The method of claim 202, wherein the first access point is arranged at a known geographic location, the method further comprising: the first access point providing geographic location information indicating a known geographic location of the portable computing device; a computer system at a network destination receiving the data from the portable computing device; providing network access to the portable computing device (column 10, lines 45-54); and determining an access level for the portable computing device after receiving the identification information (column 10, lines 55-60); wherein said providing network access comprises selectively providing network access to the portable computing device based on the known geographic location of the portable computing device and the determined access level (column 11, line 11 through column 14, line 2).

- <Claim 220>

The method of claim 202, further comprising: the first access point concurrently using a plurality of radio frequency (RF) channels for communicating with one or more portable computing devices (column 3, lines 1-2).

- <Claim 221>

The method of claim 220, wherein a first RF channel of the plurality of RF channels and a second RF channel of the plurality of RF channels are non-overlapping RF channels (column 3, lines 3-5).

- <Claim 287>

A system, comprising: a wireless access point operable to communicate with a portable computing device in a wireless fashion (figure 2), wherein the wireless access point is configured to receive identification information from the portable computing device indicating a VLAN of a plurality of possible VLANs (column 6, lines 15-22); wherein the wireless access point is operable to determine the VLAN indicated by the identification information (column 10, lines 14-19); wherein the wireless access point is operable to provide network access to the portable computing device through a service provider associated with the determined VLAN (column 10, lines 45-54); wherein the identification information comprises a System ID (SID) of a plurality of possible SIDs; and wherein the wireless access point is operable to recognize each SID of the plurality of possible SIDs, wherein each of the plurality of possible SIDs is associated with a respective one of the plurality of possible VLANs, wherein a first and a second SID are associated with a respective first and second VLAN (column 7, lines 35-39); wherein

each of at least two of the plurality of possible VLANs is associated with a different respective service provider, wherein a first and second VLAN are associated with a respective first and second service provider (Delaney, column 14, lines 11-27 and column 14, lines 33-44); and wherein the wireless access point is operable to maintain associations between the first and second SIDs and a respective plurality of active subscribers of the first and second service providers associated with the first and second VLANs associated with the first and second SIDs, respectively (Delaney, column 14, lines 11-27 and column 14, lines 33-44).

- <Claim 288>

A network system, comprising: a plurality of wireless access points coupled to a network, wherein each of the plurality of wireless access points is operable to communicate with a portable computing device in a wireless fashion (figure 2), wherein each of the plurality of wireless access points is configured to receive identification information from the portable computing device indicating a VLAN of a plurality of possible VLANs (column 6, lines 15-22); wherein each of the plurality of access points is operable to determine the VLAN indicated by the identification information (column 10, lines 14-19); wherein each of the plurality of wireless access points is operable to provide network access to the portable computing device through the determined VLAN (column 10, lines 45-54); wherein the plurality of access points are maintained by a first network service provider (Delaney, column 14, lines 33-44); and wherein the identification information indicates a second network service provider (Delaney, column 14, lines 33-44).

Since the combination of Meier and Delaney discloses all of the above limitations, claims 146-177, 179-190, 192-210, 212-221, 256-279, 285, and 287-302 are rejected.

19. Claim 191 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meier in view of Delaney, as applied above, further in view of IEEE Std 802.11-1997, hereinafter referred to as IEEE.

20. Meier and Delaney disclosed a VLAN-aware communications system that utilizes VLAN IDs and VLAN tagged frames. In an analogous art, IEEE discloses details of the 802.11 protocol including descriptions and uses for various service sets in communications systems. Meier's system is based on the IEEE 802.11 protocol.

21. Concerning these claims, Meier and Delaney did not explicitly state the use of an ESSID. However, the ESSID is explicitly stated by IEEE. Furthermore, Meier does explicitly utilize a BSSID, which is related to an ESSID, and since Meier bases his system on the 802.11 protocol, which defines the ESSID, it would be a clear extension of his system to utilize an ESSID. Thus, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Meier and Delaney by adding the ability to use an ESSID as provided by IEEE.

22. Thereby, the combination of Meier, Delaney, and IEEE discloses:

- <Claim 191>

The network system of claim 187, wherein each virtual access point of the plurality of virtual access points includes an Extended Service Set ID (ESSID), and wherein each

ESSID corresponds to one of the plurality of possible VLANs (IEEE, sections 5.2 and 5.7, *inter alia*).

Since the combination of Meier, Delaney, and IEEE discloses all of the above limitations, claim 191 is rejected.

23. Claim 211 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meier in view of Delaney, as applied above, further in view of Official Notice. Pursuant to MPEP 2144.03.C., since this claim was previously rejected over the combination of Meier, Delaney, and Official Notice, and since the applicant has not traversed the use of Official Notice, the subject matter is considered to be admitted prior art (APA). Therefore, claim 211 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meier in view of Delaney, as applied above, further in view of APA.

24. The combination discloses:

- <Claim 211>

The method of claim 202, wherein the identification information comprises a digital certificate (APA).

The use of the digital certificate for security purposes in network communications was well known in the art at the time of the applicant's invention. Therefore, Official Notice was taken and the subject matter is considered APA.

Since the combination of Meier, Delaney, and APA discloses all of the above limitations, claim 211 is rejected.

Response to Arguments

25. No arguments were submitted in the amendment filed 1/19/2007. However, some arguments were submitted in the amendment filed 9/27/2006 which was not entered, so statements therein deemed to still be relevant to the current action will be addressed so as to help clarify the record for the applicant.

26. Concerning statements that Meier does not show a VLAN to SSID association, Meier teaches both the use of VLAN IDs that can be registered by VLAN stations and alternatively VLAN and multicast group membership that can be registered by VLAN stations using BSSIDs.

27. Concerning statements that Delaney's ISPs are different than the claimed service providers, it is maintained that the ISPs meet the limitations at hand. Although Delaney's system is run by what is called a single "network service provider", the "service providers" of the claims are interpreted in the broadest reasonable interpretation and since ISPs are a type of NSP, it is considered that Delaney's ISPs meet the claimed "service providers".

28. Concerning statements that Delaney does not teach multiple ISPs, the applicant is directed to Delaney's distinction between routers 300 and 302 in figure 7 for example. Clearly Delaney's system is focused on the ability to maintain a separate set of virtual ports for each distinct organization. See Delaney, column 2, lines 42-54. The system supports multiple VLAN identifier spaces supported by multiple external routers for distinct external VLAN networks. See Delaney, column 14, lines 11-27, newly cited in the current rejection above.

Conclusion

29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor Lesniewski whose telephone number is 571-272-3987. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Victor Lesniewski
Patent Examiner
Group Art Unit 2152


6/22/17
BUNJOB JAROENCHONWANIT
SUPERVISORY PATENT EXAMINER